

**MICROFLUID EJECTION DEVICE HAVING
EFFICIENT LOGIC AND DRIVER CIRCUITRY**

ABSTRACT OF THE DISCLOSURE

A semiconductor substrate for a microfluid ejection head. The substrate includes a plurality of fluid ejection actuators disposed on the substrate. A plurality of driver transistors are disposed on the substrate for driving the plurality of fluid ejection actuators. Each of the driver transistors have an active area ranging from
5 about 1000 to less than about 15,000 μm^2 . A plurality of logic circuits including at least one logic transistor are coupled to the driver transistors. The driver and logic transistors are provided by a high density array of MOS transistors wherein at least the logic transistors have a gate length of from about 0.1 to less than about 3 microns.

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